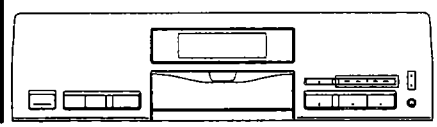
PIONEER®
The Art of Entertainment

Service Manual



ORDER NO.
RRV1146

The chapter 1 of this Service Manual will not be reprinted. On your additional orders, we may supply only the chapter 2. For the chapter 1, please make copies and attach to the chapter 2 at your side if necessary.

COMPACT DISC PLAYER

PD-S703

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	PD-S703		
HB	○	AC230 – 240V	AC220 – 230V, *
HEM	○	AC220 – 230V	AC230 – 240V, *
HPW	○	AC230 – 240V	AC220 – 230V, *
SD	○	AC110V/120 – 127V/220V/240V	With the voltage selector

* : Alter the wiring of the Power-supply block at the primary winding of power transformer referring to the "Line Voltage Selection" described in Service Manual.

CONTENTS

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

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CHAPTER 1

1.1 SAFETY INFORMATION

(FOR EUROPEAN MODEL ONLY)

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING!
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

LASER
Kuva 1
Lasersateilyn varoitusmerkki

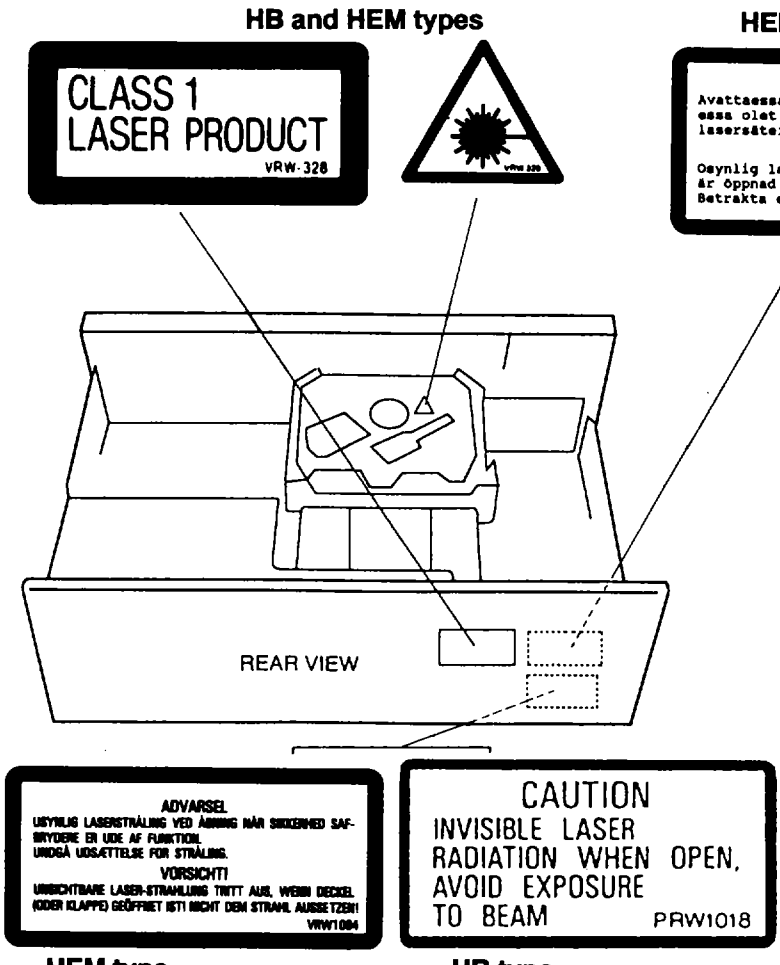
WARNING!
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm

LASER
Picture 1
Warning sign for laser radiation

LABEL CHECK



Additional Laser Caution

1. Laser Interlock Mechanism
   The position of the switch (S601) for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S601) is not on $\overline{\text{CLMP}}$ terminal side ($\overline{\text{CLMP}}$ signal is OFF or high level).
   Thus, the interlock will no longer function if the switch (S601)is deliberately set to $\overline{\text{CLMP}}$ terminal side(low level). The interlock also does not function in the test mode *. Laser diode oscillation will continue, if pin 1 of M51593FP (IC101) on the PRE AMP BOARD ASSY mounted on the pickup assembly is connected to GND, or pin 19 is connected to low level (ON), or else the terminals of Q101 are shorted to each other (fault condition).
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

92S1B

* Refer to page 1-8.

1.2 SPECIFICATIONS

1. General

Type ..... Compact disc digital audio system
Power requirements ..... AC 230 - 240 V, 50/60 Hz
Power consumption ..... 17 W
Operating temperature ..... +5°C - +35°C
Weight ..... 4.2 kg
External dimensions ..... 420 (W) x 286 (D) x 125 (H) mm

2. Audio section

Frequency response ..... 2 Hz - 20 kHz
S/N ratio ..... 110 dB or more (EIAJ)
Dynamic range ..... 96 dB or more (EIAJ)
Harmonic distortion ..... 0.0026% or less (EIAJ)
Output voltage ..... 2.0 V
Wow and flutter ..... Limit of measurement (±0.001% W.PEAK) or less (EIAJ)
Channels ..... 2-channel (stereo)

3. Output terminal

Audio line output jacks (FIXED)
Control input/output jacks (Australian model only)
Optical digital output jack
Coaxial digital output jack (U.K. model only)
CD-DECK SYNCHRO jack

4. Functions

Basic operation buttons
- PLAY, PAUSE, STOP

Search function
- Direct play
- Track search
- Manual search
- Index search

Programming
- Maximum 24 steps
- Pause
- Program check/correction
- Program clear (single track or all tracks)

Repeat functions
- 1 track repeat
- All tracks repeat
- Program play repeat
- Random play repeat

Random play (repeat also available)

Switching display
Time consumed, remaining time (track/disc), and total time

Display off function

Timer start

Peak search

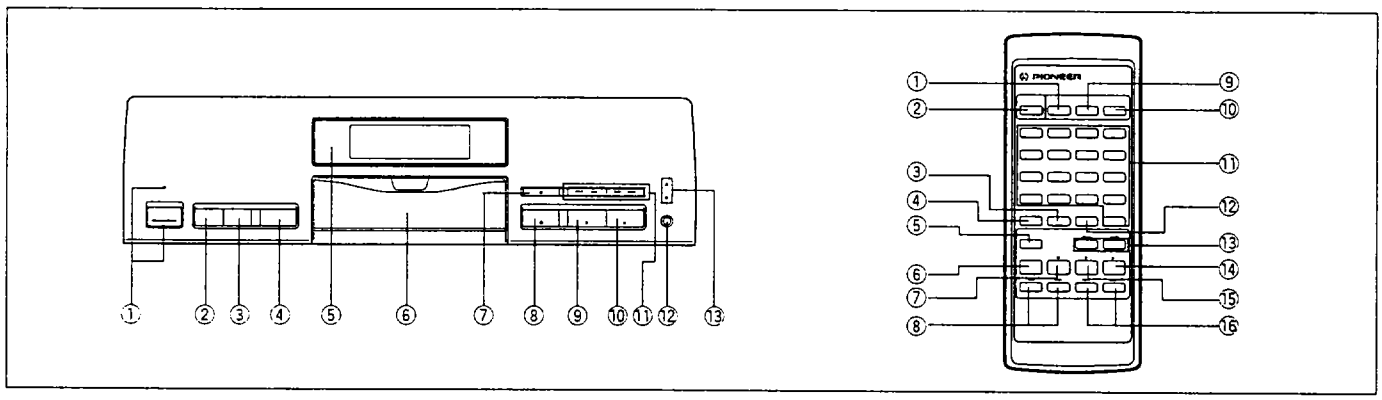
Compu/Auto program editing
Selects the tracks within the specified time.

5. Accessories

- Remote control unit 1
- Size AAA/R03 dry cell batteries 2
- Control cable (Australian model only) 1
- Output cable 1
- Operating instructions 1

NOTE:
Specifications and design subject to possible modification without notice, due to improvements.

1.3 PANEL FACILITIES



FRONT PANEL

① **POWER STANDBY/ON switch and STANDBY indicator**
② **DISPLAY OFF button**
③ **TIME button**
④ **REPEAT button**
⑤ **Remote sensor**
Receives the signal from the remote control unit.
⑥ **Disc tray**
⑦ **Stop button (■)**
⑧ **OPEN/CLOSE button (≜)**
⑨ **Pause button (II)**
⑩ **Play button (►)**
⑪ **Track/Manual search buttons (|◄◄ ◄◄/►► ►►|)**
⑫ **OUTPUT SELECTOR button**
⑬ **DIGITAL/ANALOG output indicators**

REMOTE CONTROL UNIT

Remote control buttons with the same names or marks as buttons on the front panel of the player control the same operations as the corresponding front panel buttons.

① **OPEN/CLOSE button**
② **POWER button**
③ **CHECK button**
④ **PROGRAM button**
⑤ **COMPU/AUTO EDIT button**
⑥ **PEAK SEARCH button**
⑦ **Stop button (■)**
⑧ **Manual search buttons (◄◄/►►)**
⑨ **REPEAT button**
⑩ **RANDOM PLAY button**
⑪ **Track number/Digit buttons (1 - 16, >16)**
⑫ **CLEAR button**
⑬ **Index buttons (—/—)**
⑭ **Play button (►)**
⑮ **Pause button (II)**
⑯ **Track search buttons (|◄◄/►►|)**

1.4 DISASSEMBLY

REMOVE THE TRAY PANEL AND THE TRAY LENS

Hold the tray panel with your hands as the figure shown right, and grasp the tray with your thumbs and then lift the tray panel up while pulling it toward you with the other fingers. (Figs.1 and 2)

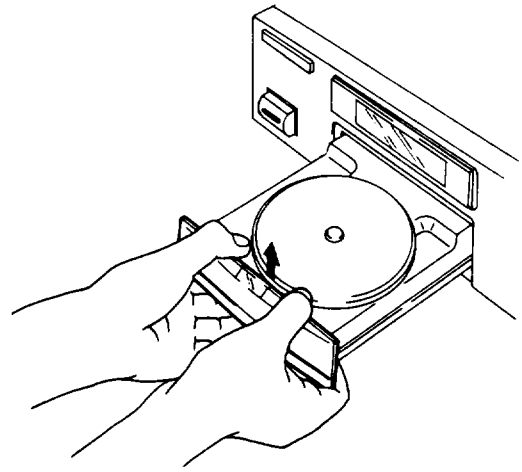


Fig. 1

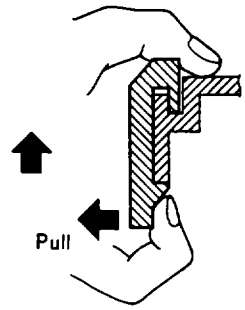


Fig. 2

INSTALL THE TRAY PANEL AND THE TRAY LENS

Align the tray panel with the grooves located at both edges of the tray while holding the tray lens with you fingers, and then press it down till it stops. (Fig. 3)

Hold the tray panel and the tray as shown in Fig. 4 and slide them down till you hear a click sound while pressing stongly with your thumbs. (Figs. 4 and 5)

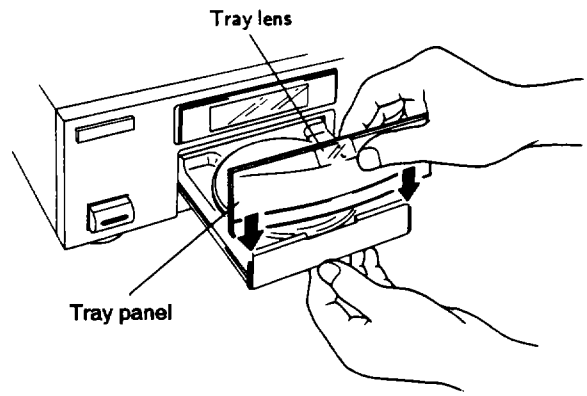


Fig. 3

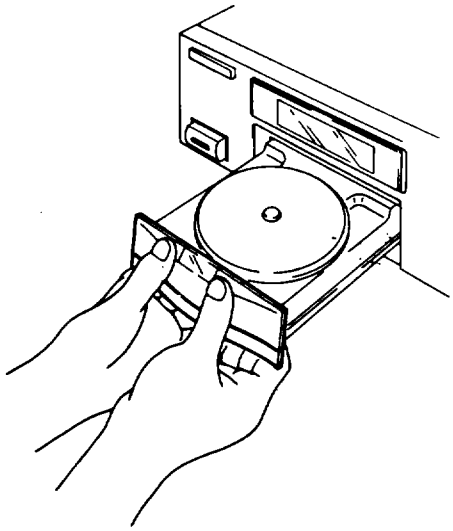


Fig. 4

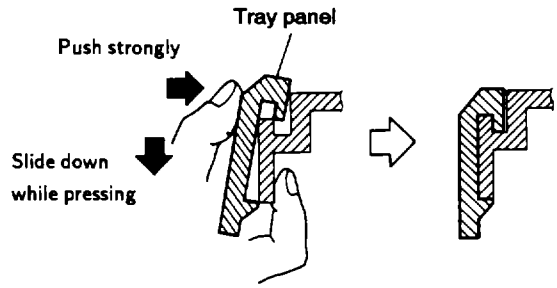
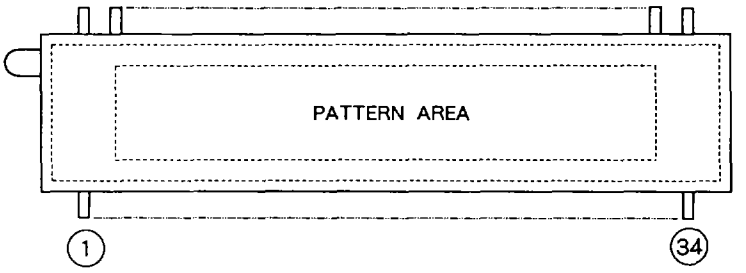


Fig. 5

1.5 FL INFORMATION

■ PEL1085 (V701)

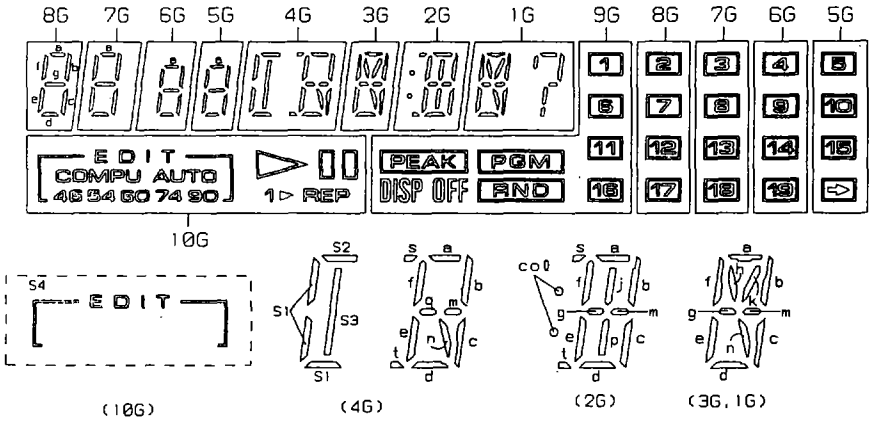


Pin Connection

PIN No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
CONNECTION	F1	F2	NP	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NX	NX	NX	NX	NX	NX	P	NX	F2

NOTE 1) F1, F2 ..... Filament
2) NP ..... No pin
3) NX ..... No extend pin
4) DL ..... Datum Line
5) 1G – 10G ..... Grid

Grid Assignment



Anode Connection

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	46	RND	e	e	e	e	e	e	e	e
P2	54	PGM	f	f	f	f	f	f	f	f
P3	60	PEAK	g	g	g	g	g,m	g,m	g,m	g
P4	1▷	DISP OFF	-	-	-	-	s,t	-	s,t	m
P5	74	-	a	a	a	a	a	a	a	a
P6	90	-	b	b	b	b	b	b	b	b
P7	AUTO	-	c	c	c	c	c	c	c	c
P8	COMPU	-	d	d	d	d	d	d	d	d
P9	S4	1	2	3	4	5	S2	h	col	h
P10	▷	6	7	8	9	10	S3	k	j,p	k
P11	□□	11	12	13	14	15	n	n	-	n
P12	REP	16	17	18	19	⇨	S1	-	-	7

1.6 ADJUSTMENTS

● Adjustment Methods

If a disc player is adjusted incorrectly or inadequately, it may malfunction or not work at all even though there is nothing at all wrong with the pickup or the circuitry. Adjust correctly following the adjustment procedure.

● Adjustment Items/Verification Items and Order

If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in steps 1 − 4, the pickup block may be defective.

Step	Item	Test Point	Adjustment Location
1	Focus offset verification	TP1, Pin 6 (FCS. ERR)	None
2	Tracking error balance verification	TP1, Pin 2 (TRK. ERR)	None
3	Pickup radial/tangential direction tilt adjustment	TP1, Pin 1 (RF)	Radial tilt adjustment screw, Tangential tilt adjustment screw
4	RF level verification	TP1, Pin 1 (RF)	None
5	Focus servo loop gain adjustment	TP1, Pin 5 (FCS. IN) TP1, Pin 6 (FCS. ERR)	VR152 (FCS. GAN)
6	Tracking servo loop gain adjustment	TP1, Pin 3 (TRK. IN) TP1, Pin 2 (TRK. ERR)	VR151 (TRK. GAN)

● **Abbreviation table**

FCS. ERR :Focus Error
TRK. ERR :Tracking Error
FCS GAN :Focus Gain
TRK GAN :Tracking Gain
FCS. IN :Focus In
TRK. IN :Tracking In

● Measuring Instruments and Tools

1. Dual trace oscilloscope (10:1 probe)
2. Low-frequency oscillator
3. Test disc (YEDS-7)
4. Low pass filter (39kΩ +0.001 μF)
5. Resistor (100 kΩ)
6. Standard tools

● Test Point and Adjustment Variable Resistor Positions

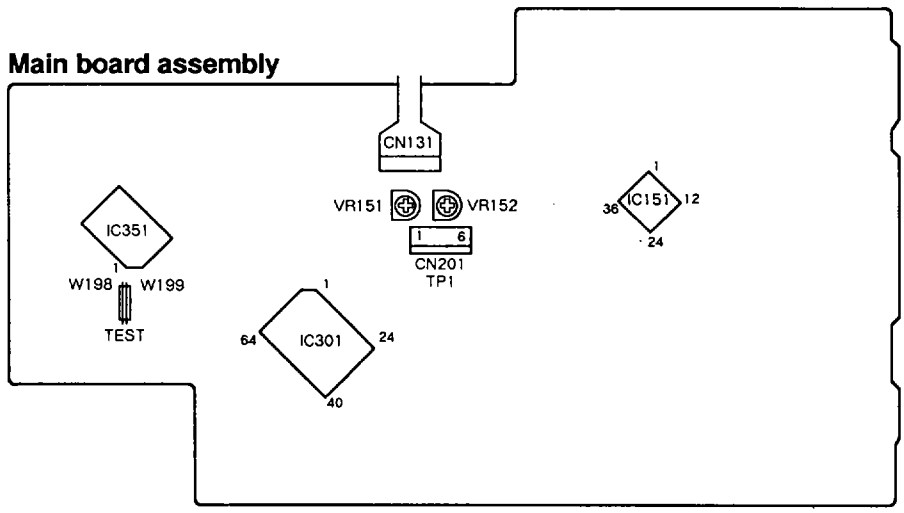


Figure 1. Adjustment Locations

● Notes

1. Use a 10:1 probe for the oscilloscope.
2. All the knob positions (settings) for the oscilloscope in the adjustment procedures are for when a 10:1 probe is used.

● Test Mode

These models have a test mode so that the adjustments and checks required for service can be carried out easily. When these models are in test mode, the keys on the front panel work differently from normal. Adjustments and checks can be carried out by operating these keys with the correct procedure. For these models, all adjustments are carried out in test mode.

[Setting these models to test mode]

How to set this model into test mode.
1. Unplug the power cord from the AC wall socket.
2. Short the test mode jumper wires. (See Figure 1.)
3. Plug the power cord back into the AC socket.

When the test mode is set correctly, the display is different from what it usually is when the power is turned on. If the display is still the same as usual, test mode has not been set correctly, so repeat Steps 1 – 3.

[Release from test mode]

Here is the procedure for releasing the test mode:

1. Press the STOP key and stop all operations.
2. Turn off the power switch on the front panel.

[Operations of the keys in test mode]

Code	Key Name	Function In Test Mode	Explanation
	OUTPUT SELECTOR	Focus servo close	The laser diode is lit up and the focus actuator is lifted up, then lowered slowly and the focus servo is closed at the point where the objective lens is focused on the disc. With the player in this state, if you lightly rotate the stopped disc by hand, you can hear the sound the focus servo. If you can hear this sound, the focus servo is operating correctly. If you press this key with no disc mounted, the laser diode lights up, the focus actuator is pulled up, then the actuator is lowered and raised three times and returned to its original position.
▷	PLAY	Spindle servo ON	Starts the spindle motor in the clockwise direction and when the disc rotation reaches the prescribed speed (about 500 rpm at the inner periphery), sets the spindle servo in a closed loop. Be careful. Pressing this key when there is no disc mounted makes the spindle motor run at the maximum speed. If the focus servo does not go correctly into a closed loop or the laser light shines on the mirror section at the outermost periphery of the disc, the same symptom is occurred.
▯▯	PAUSE	Tracking servo close/open	Pressing this key when the focus servo and spindle servo are operating correctly in closed loops puts the tracking servo into a closed loop, displays the track number being played back and the elapsed time on the front panel, and outputs the playback signal. If the elapsed time is not displayed or not counted correctly or the audio is not played back correctly, it may be that the laser is shining on the section with no sound recorded at the outer edge of the disc, that something is out of adjustment, or that there is some other problem. This key is a toggle key and open/close the tracking servo alternately. This key has no effect if no disc is mounted.

Code	Key Name	Function in Test Mode	Explanation
⏮ / ◁◁	TRACK / MANUAL SEARCH REV	Carriage reverse (inwards)	Moves the pickup position toward the inner diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
▷▷ / ⏭	TRACK / MANUAL SEARCH FWD	Carriage forward (outwards)	Moves the pickup position toward the outer diameter of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the motor does not automatically stop at the mechanical end point in test mode, be careful with this operation.
□	STOP	Stop	Initializes and the disc rotation stops. The pickup and disc remain where they are when this key is pressed.
⏏	OPEN/CLOSE	Disc tray open/close	Open/close the disc tray. This key is a toggle key and open/close tray altenately. Pressing this key when the disc is turning stops the disc, then opens the tray. This key operation does not affect the position of the pickup.

[How to play back a disc in test mode]

In test mode, since the servos operate independently, playing back a disc requires that you operate the keys in the correct order to close the servos.
Here is the key operation sequence for playing back a disc in test mode.

OUTPUT SELECTOR	Lights up the laser diode and closes the focus servo.
⇩	
PLAY ▷	Starts the spindle motor and closes the spindle servo.
⇩	
PAUSE ▯▯	Closes the tracking servo.

Wait at least 2-3 seconds between each of these operations.

1. Focus Offset Verification

● Objective ● Symptom when out of adjustment	Verify the DC offset for the focus error amp. The model does not focus in and the RF signal is dirty.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 6 (FCS. ERR) [Settings] 5 mV/division 10 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, stopped (just the Power switch on) None None needed

[Procedure]

Verify the DC voltage at TP1, Pin 6 (FCS. ERR) is 0 ± 50 mV.

Note : If the specified values cannot be obtained or no adjustment is possible by performing the verifications or adjustments described in adjustment items 1 – 4, the pickup block may be defective.

2. Tracking Error Balance Verification

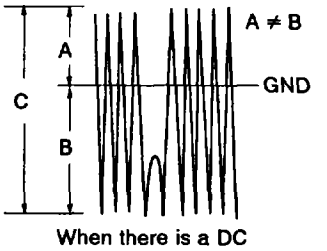
● Objective ● Symptom when out of adjustment	To verify that there is no variation in the sensitivity of the tracking photo diode. Play does not start or track search is impossible.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 2 (TRK. ERR). This connection may be via a low pass filter. [Settings] 50 mV/division 5 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, focus and spindle servos closed and tracking servo open None YEDS-7

[Procedure]

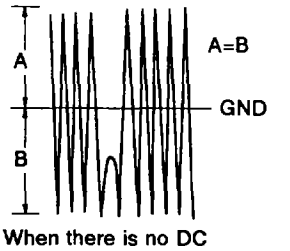
1. Move the pickup to midway across the disc (R=35 mm) with the TRACK/MANUAL SEARCH FWD ▷▷ • ▷▷| or REV |◁◁ • ◁◁ key.
2. Press the OUTPUT SELECTOR key, then the PLAY ▷ key in that order to close the focus servo then the spindle servo.
3. Line up the bright line (ground) at the center of the oscilloscope screen and put the oscilloscope into DC mode.
4. Supposing that the positive amplitude of the tracking error signal at TP1, pin 2 (TRK ERR) is (A) and the negative amplitude is (B), the following expression is satisfied.

When $A \geqq B$, $\frac{A-B}{C} \times \frac{1}{2} \leqq 0.1$

When $A < B$, $\frac{B-A}{C} \times \frac{1}{2} \leqq 0.1$



When there is a DC component



When there is no DC component

3. Pickup Radial/Tangential Tilt Adjustment

● Objective ● Symptom when out of adjustment	To adjust the angle of the pickup relative to the disc so that the laser beams are shone straight down into the disc for the best read out of the RF signals. Sound broken;some discs can be played but not others.		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 1 (RF). [Settings] 20 mV/division 200 ns/division AC mode	● Player state ● Adjustment location ● Disc	Test mode, play Pickup radial tilt adjustment screw and tangential tilt adjustment screw YEDS-7

[Procedure]

1. Press the TRACK / MANUAL SEARCH FWD ▷▷ • ▷▷| or REV |◁◁ • ◁◁ key to move the pickup to halfway across the disc (R=35mm).
   Press the OUTPUT SELECTOR key, the PLAY ▷ key, then the PAUSE ▯▯ key in that order to close the respective servos and put the player into play mode.
2. First, adjust the radial tilt adjustment screw with a Phillips screwdriver so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly.
3. Next, adjust the tangential tilt adjustment screw with a Phillips screwdriver so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly (Figure 3).
4. Adjust the radial tilt adjustment screw and the tangential tilt adjustment screw again so that the eye pattern can be seen the most clearly. As necessary, adjust the two screws alternately so that the eye pattern can be seen the most clearly.
5. When the adjustment is completed, lock the radial and tangential adjustment screw.
   Note:Radial and tangential mean the directions relative to the disc shown in Figure 2.

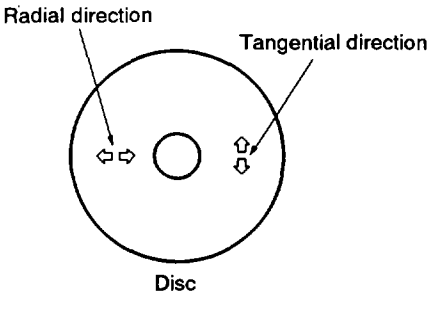
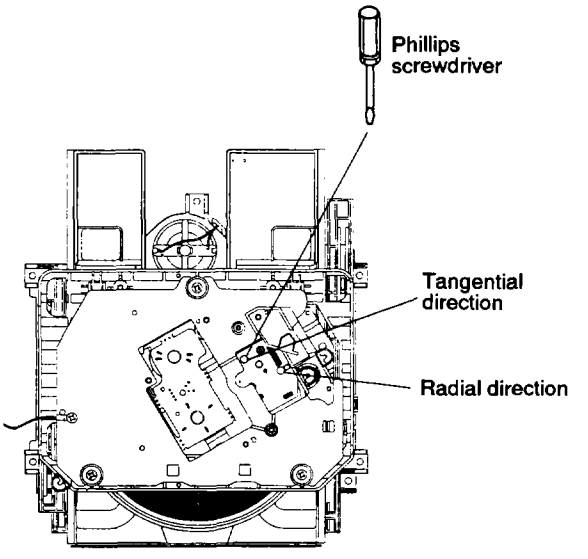


Figure 2



Adjustment locations

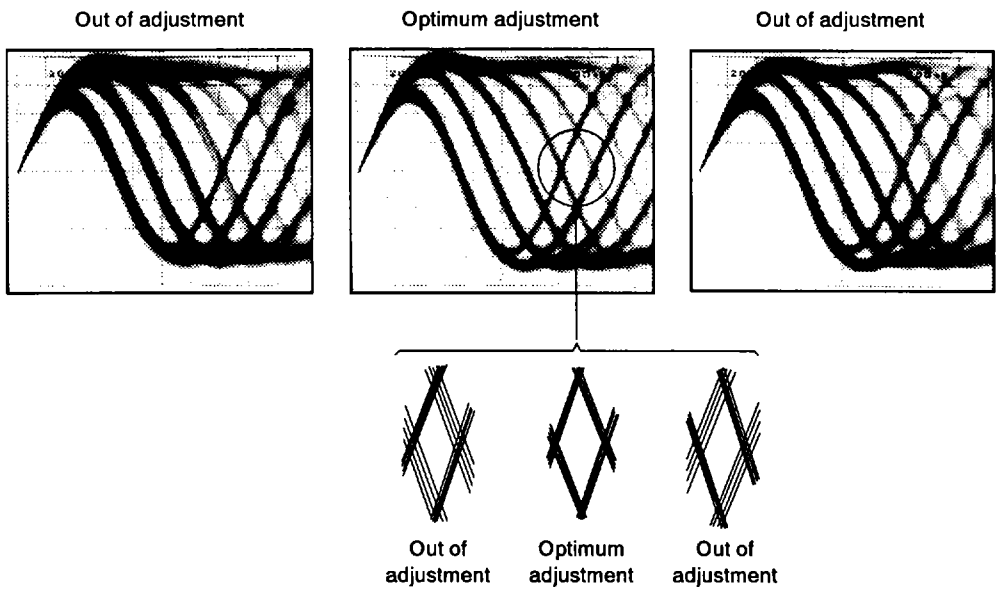


Figure 3. Eye pattern

4. RF Level Verification

● Objective ● Symptom when out of adjustment	To verify the playback RF signal amplitude No play or no search		
● Measurement instrument connections	Connect the oscilloscope to TP1, Pin 1 (RF). [Settings] 50 mV/division 10 ms/division AC mode	● Player state ● Adjustment location ● Disc	Test mode, play None YEDS-7

[Procedure]

1. Move the pickup to midway across the disc (R=35 mm) with the TRACK/MANUAL SEARCH FWD ▷▷ ▷▷| or REV |◁◁ ◁◁ key, then press the OUTPUT SELECTOR key, the PLAY ▷ key, then the PAUSE ▯▯ key in that order to close the respective servos and put the player into play mode.
2. Verify the RF signal amplitude is 1.2 Vp-p ± 0.2 V.

5. Focus Servo Loop Gain Adjustment

● Objective ● Symptom when out of adjustment	To optimize the focus servo loop gain. Playback does not start or focus actuator noisy.		
● Measurement instrument connections	See figure 4. [Settings] CH1 CH2 20 mV/division 5 mV/division X-Y mode	● Player state ● Adjustment location ● Disc	Test mode, play VR152 (FCS. GAN) YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 1 Vp-p.
2. Press the TRACK/MANUAL SEARCH FWD ▷▷ ▷▷| or REV |◁◁ ◁◁ key to move the pickup to halfway across the disc (R=35 mm), then press the OUTPUT SELECTOR key, the PLAY ▷ key, then the PAUSE ▯▯ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR152 (FCS. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

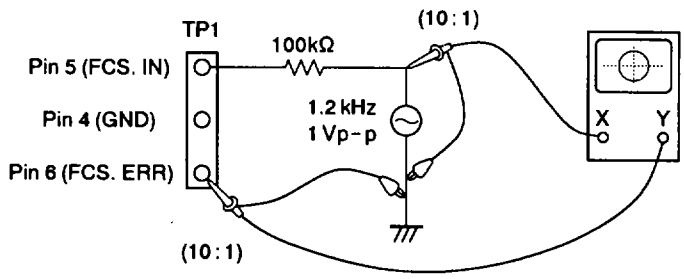
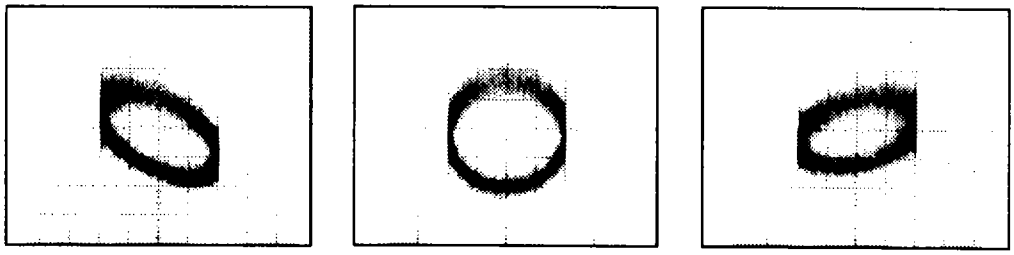


Figure 4

Focus Gain Adjustment



Higher gain | Optimum gain | Lower gain

6. Tracking Servo Loop Gain Adjustment

● Objective	To optimize the tracking servo loop gain.		
● Symptom when out of adjustment	Playback does not start, during searches the actuator is noisy, or tracks are skipped.		
● Measurement instrument connections	See Figure 5. [Settings] CH1 CH2 50 mV/division 20 mV/division X-Y mode	● Player state ● Adjustment location ● Disc	Test mode, play VR151 (TRK. GAN) YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 2 Vp-p.
2. Press the TRACK/MANUAL SEARCH FWD ▷▷ ▷▷| or REV |◁◁ ◁◁ key to move the pickup to halfway across the disc (R=35 mm), then press the OUTPUT SELECTOR key, the PLAY ▷ key, then the PAUSE ▯▯ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR151 (TRK. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

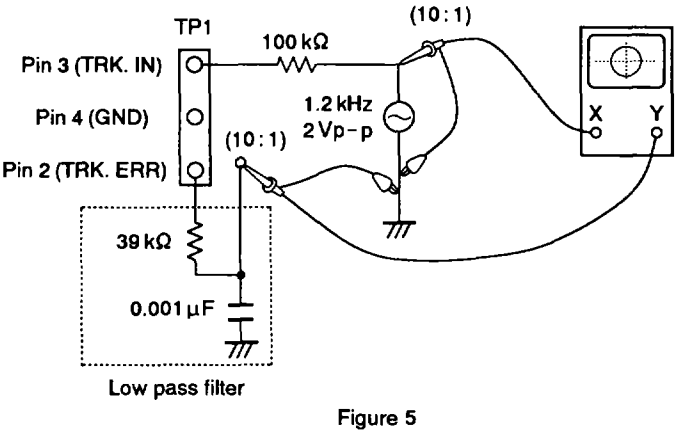
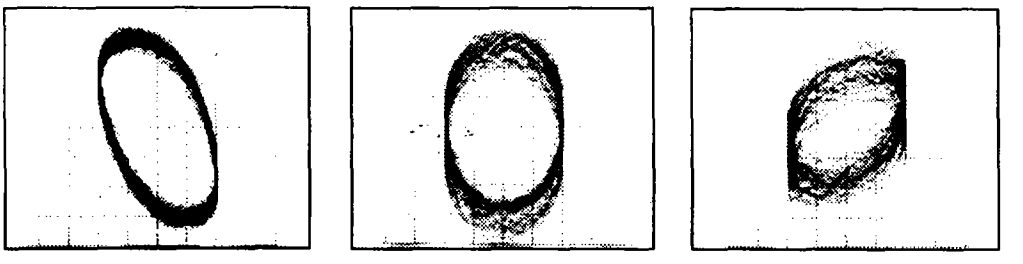


Figure 5

Tracking Gain Adjustment



Higher gain | Optimum gain | Lower gain

1.7 PARTS LIST FOR EXPLODED VIEWS AND PACKING

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

1. EXTERIOR AND PACKING

■ CONTRAST OF HB, HEM, HPW AND SD TYPES

HB, HEM, HPW and SD types have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.				Remarks
			HB type	HEM type	HPW type	SD type	
	4	Display window	PAM1650	PAM1650	PAM1651	PAM1651	
⚠	21	Main board assy	PWZ2828	PWZ2825	PWZ2829	PWZ2825	
⚠	24	Power transformer (AC220 – 230/230 – 240V)	PTT1301	PTT1301	PTT1301	Not used	
⚠	24	Power transformer (AC110/120 – 127/220/240V)	Not used	Not used	Not used	PTT1302	
⚠	26	AC power cord	PDG1055	PDG1003	RDG1022	PDG1056	
	32	Rear base	PNA2143	PNA2142	PNA2144	PNA2145	
NSP	33	Coaxial output board assy	PWZ2835	Not used	Not used	Not used	
⚠	35	Servo trans board assy	PWZ2864	PWZ2863	PWZ2866	PWZ2865	
⚠	37	Fuse (T5A)	PEK1003	Not used	Not used	Not used	
	46	CD packing case	PHG2087	PHG2053	PHG2054	PHG2059	
	48	Operating instructions (English)	PRB1214	Not used	PRB1214	Not used	
	48	Operating instructions (English/French/German/Italian/Dutch/ Swedish/Spanish/Portuguese)	Not used	PRE1207	Not used	Not used	
	48	Operating instructions (English/Spanish/Chinese)	Not used	Not used	Not used	PRE1210	
	52	Protector R	PHA1253	PHA1245	PHA1245	PHA1245	
	54	Poryethylene bag	Z21 – 013	Not used	Not used	Not used	
⚠	56	Voltage selector (AC110/120 – 127/220/240V)	Not used	Not used	Not used	PSB1002	
	57	Cord with mini plug	Not used	Not used	PDE1247	Not used	

■ PARTS LIST FOR HB TYPE

Mark	No.	Description	Part No.
	1	Front panel	PAN1298
	2	Name plate	VAM1032
	3	Function panel	PNW2279
	4	Display window	PAM1650
	5	LED lens	PNW2019
	6	Power button	PAC1743
	7	.....	
	8	Function button	PAC1744
NSP	9	SW board assy	PWZ2861
	10	Screw	PPZ30P150FMC
	11	Function board assy	PWZ2858
	12	Tray panel	PNW2280
	13	.....	
	14	Screw	BBT30P080FCC
	15	Tray lens	PNW2242
	16	Screw	IBZ30P060FCC
	17	Screw	IBZ30P080FCC
	18	Insulator	PNW1912
	19	.....	
NSP	20	PCB spacer	PNY – 404
⚠	21	MAIN board assy	PWZ2828
NSP	22	Under base	PNA2155
	23	Screw	BBZ30P080FCC
⚠	24	Power transformer (12W) (AC220 – 230/230 – 240V)	PTT1301
⚠	25	Cord stopper	CM – 22B
⚠	26	AC power cord	PDG1055
	27	Screw	IBZ30P150FCC
	28	Screw	PDZ30P050FMC
	29	Screw	FBT40P080FZK
	30	.....	
	31	Bonnet	PYY1175
	32	Rear base	PNA2143
NSP	33	Coaxial output board assy	PWZ2835
	34	Caution label	PRW1244
⚠	35	Servo trans board assy	PWZ2864
NSP	36	Loading mechanism assy TT	PXA1509
⚠	37	Fuse (T5A)	PEK1003
	38	.....	
NSP	39	Cushion (3.5)	PEB1110
NSP	40	Spacer A	PEB1228
	41	.....	
NSP	42	PCB holder	PNW2100
	43	Indicator lens	PEA1206
	44	Output button	PAC1661
	45	Mirror mat sheet	Z23 – 007
	46	CD packing case	PHG2087
	47	Cord with plug	PDE1248
	48	Operating instructions (English)	PRB1214
	49	Remote control unit	PWW1093
	50	Battery cover	PZN1012
	51	Protector F	PHA1243
	52	Protector R	PHA1253
NSP	53	Battery (R03, AAA)	VEM – 022
	54	Polyethylene bag	Z21 – 013
NSP	55	Cord holder	DNF1128

2. LOADING MECHANISM ASSY TT

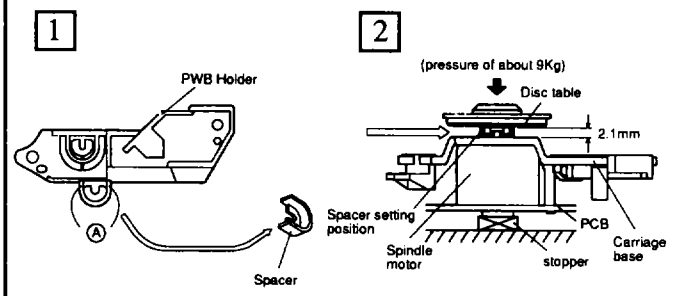
Parts List

Mark	No.	Description	Part No.
	1	Lever switch (S601)	DSK1003
	2	Screw (steel)	PBA1027
	3	Rubber belt	PEB1186
	4	Motror pulley	PNW1634
	5	Drive gear	PNW1996
	6	Synchro lever	PNW2168
	7	Gear pulley	PNW1998
	8	SW head	PNW1999
	9	Float base	PNW2000
	10	Left cam	PNW2001
	11	Right cam	PNW2002
	12	Compression spring	PBH1120
	13	Tention spring	PBH1121
	14	Float (rubber)	PEB1014
	15	Table rubber sheet	PEB1181
	16	Tray	PNW2003
	17	Table guide	PNW2004
	18	Lock plate	PNW2005
	19	DC motor (LOADING)	PXM1010
	20	Rubber bush	PEB1031
	21	Rubber bush	PEB1170
	22	Screw	BMZ26P040FMC
	23	Screw	IPZ26P060FCU
	24	Screw	IPZ20P080FMC
	25	Screw	BBZ26P060FMC
	26	Washer	YE20S
NSP	27	Loading base	PNW1995
NSP	28	Table bearing assy	PXA1383
NSP	29	Turn table (AL)	PNR1035
	30	DC motor (CARRIAGE)	PXM1027
	31	Pinion gear	PNW2055
	32	DC motor assy (SPINDLE) (with oil)	PEA1236
	33	Carriage base	PNW2455
	34	Disc table	PNW1067
	35	Screw	JFZ20P030FNI
	36	Screw	JFZ17P025FZK
	37	Gear 3	PNW2054
	38	Gear 2	PNW2053
	39	Washer	WT12D032D025
	40	Pickup assy	PEA1179
	41	Guide bar	PLA1094
	42	Gear 1	PNW2052
NSP	43	Gear stopper	PNB1303
	44	Screw	BPZ20P060FMC
	45	Spring	PBH1132
NSP	46	Mechanism base	PNB1431
	47	Screw	BPZ20P100FMC
	48	PWB holder	PNW2057
NSP	49	Earth lead unit	XDF – 503
NSP	50	Mechanism board assy	PWX1192
	51	Cord clamper	PEC – 107
NSP	52	Servo mechanism assy	PXA1479
	53	Screw	BPZ26P060FMC
	54	Turn table assy	PEA1165
	55	.....	
	56	Shaft holder	PNB1382

•How to install the disc table

[1] Use nipper or other tool to cut the two sections marked Ⓐ figure [1]. Then remove the spacer.

[2] While supporting the spindle motor shaft with the stopper, put spacer on top of the motor base and stick the disc table on top (takes about 9kg pressure).Take off the spacer.



1.8 PCB PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10^1 → 561 ····· RD1/8PM[5][6][1]J
47k Ω → 47 × 10^3 → 473 ····· RD1/4PS[4][7][3]J
0.5 Ω → 0R5 ····· RN2H[0][R][5]K
1 Ω → 010 ····· RS1P[0][1][0]K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10^1 → 5621 ····· RN1/4PC[5][6][2][1]F

LIST OF WHOLE PCB ASSEMBLIES

Mark	PCB Assemblies	Part No.				Remarks
		HB type	HEM type	HPW type	SD type	
⚠NSP	Mother board assy	PWM1903	PWM1902	PWM1905	PWM1902	
⚠	├ Main board assy	PWZ2828	PWZ2825	PWZ2829	PWZ2825	
NSP	└ Coaxial output board assy	PWZ2835	Not used	Not used	Not used	
⚠NSP	Sub board assy	PWX1377	PWX1376	PWX1379	PWX1378	
	├ Function board assy	PWZ2858	PWZ2858	PWZ2858	PWZ2858	
NSP	├ SW board assy	PWZ2861	PWZ2861	PWZ2861	PWZ2861	
⚠	└ Servo trans board assy	PWZ2864	PWZ2863	PWZ2866	PWZ2865	
NSP	Mechanism board assy	PWX1192	PWX1192	PWX1192	PWX1192	

MAIN BOARD ASSY

PWZ2828, PWZ2825 and PWZ2829 have the same construction except for the following:

Mark	Symbol & Description	Part No.			Remarks
		PWZ2828	PWZ2825	PWZ2829	
	IC405	NJM4558D – D	NJM4558D – D	NJM4565D – D	
	D319 – D394	Not used	Not used	1SS254	
	C152	PCH1128	PCH1128	CEAS221M25	
	C158, C230	CFTXA104J50	CFTXA104J50	CGCYX104K25	
	C205, C210, C215, C219	CFTXA103J50	CFTXA103J50	CKCYF103Z50	
	C173	CCCCH150J50	CCCCH150J50	Not used	
	C211, C212, C216, C217, C431, C432	PCH1126	PCH1126	CEAS101M25	
	C218	CFTXA272J50	CFTXA272J50	CKCYB272K50	
	C302, C322	PCH1123	PCH1123	CEAS471M6R3	
	C351	PCH1129	PCH1129	CEAS471M6R3	
	C393	Not used	Not used	CCCSL101J50	
	L391, L392	Not used	Not used	LAU010J	
	R321	RD1/6PM561J	RD1/6PM102J	RD1/6PM102J	
	R391	Not used	Not used	RD1/6PM244J	
	R392	Not used	Not used	RD1/6PM102J	
	CN301 JUMPER CONNECTOR 3P	52147 – 0310	Not used	Not used	
	JA391, JA392	Not used	Not used	RKN1004	

SERVO TRANS BOARD ASSY

PWZ2864, PWZ2863, PWZ2866 and PWZ2865 have the same construction except for the following:

Mark	Symbol & Description	Part No.				Remarks
		PWZ2864	PWZ2863	PWZ2866	PWZ2865	
	L1	Not used	PTH1014	Not used	Not used	
	L3	PTH1014	Not used	Not used	Not used	
	L2, L22	PTH1014	PTH1014	Not used	Not used	
	L13, L21	PTH1013	PTH1013	Not used	Not used	
	L15	PTH1015	PTH1015	Not used	Not used	
	L18, L24, L26	PTH1016	PTH1016	Not used	Not used	
	C18, C19	PCH1127	PCH1127	CEAS4R7M50	PCH1127	
	C25, C26, C31, C32	PCH1125	PCH1125	CEAS332M16	PCH1125	
	C27, C28	PCH1123	PCH1123	CEAS471M6R3	PCH1123	
	C52	PCH1126	PCH1126	CEAS101M35	PCH1126	
	C53	PCH1126	PCH1126	CEAS101M25	PCH1126	

■ PARTS LIST FOR HB TYPE

Mark	No.	Description	Part No.
MECHANISM BOARD ASSY			
	SWITCHES AND RELAYS		
	S610		DSG1016
MAIN BOARD ASSY			
	SEMICONDUCTORS		
	IC151		CXA1372Q
	IC301		CXD2500BQ
⚠	IC201, IC202		LA6520
⚠	IC421		NJM2930L05
	IC405		NJM4558D-D
	IC401		PD2029A
	IC351		PD4539A
	Q391		2SC1740S
	Q403, Q404, Q453, Q454		2SC3068
	Q451, Q452		DTA124ES
	Q322, Q405, Q455, Q456		DTC124ES
	D218, D351, D395-D397		1SS254
	D451-D454		1SS254
	COILS AND FILTERS		
	L395, L396, L415, L416		LAU010J
	L301		LAU390J
	L321		PTH1016
	L351		RTF1068
	CAPACITORS		
	C435-C438		CCCCH050C50
	C403		CCCCH120J50
	C173		CCCCH150J50
	C404		CCCCH220J50
	C429, C430		CCCCH390J50
	C433, C434		CEANP220M35
	C153		CEAS101M10
	C160, C162, C451, C452		CEAS4R7M50
	C309		CEASR47M50
	C301		CENA101M25
	C405		CENA471M25
	C205, C210, C215, C219		CFTXA103J50
	C158, C161, C230, C321		CFTXA104J50
	C413-C416		CFTXA104J50
	C441, C442		CFTXA152J50
	C218		CFTXA272J50
	C151		CFTXA394J50
	C406, C407		CFTXA471J50
	C303, C408		CFTXA474J50
	C157, C164, C169, C308		CGCYX103K25
	C159, C163		CGCYX104K25
	C156, C168		CGCYX333K25
	C307		CGCYX473K25
	C306		CKCYB152K50
	C155		CKCYB182K50
	C170		CKCYB332K50
	C171, C172		CKCYB472K50
	C167, C352, C353, C461		CKCYF103Z50
	C355		CKPUYF103Z25
	C302, C322 (470/6.3)		PCH1123
	C211, C212, C216, C217 (100/50)		PCH1126
	C431, C432 (100/50)		PCH1126
	C152 (220/25)		PCH1128
	C351 (470/50)		PCH1129
	RESISTORS		
	VR151, VR152 (22K)		PCP1030

Mark	No.	Description	Part No.
		Other Resistors	RD1/6PM□□□J
OTHERS			
		CN131 CONNECTOR	12FM-1.0BT
		CN204 CONNECTOR 5P	VKN1052
		CN353 JUMPER CONNECTOR 2P	52147-0210
		CN12, CN301 JUMPER CONNECTOR 3P	52147-0310
		CN11 JUMPER CONNECTOR 11P	52147-1110
		CN352 JUMPER CONNECTOR 15P	52147-1510
		CN351 JUMPER CONNECTOR 17P	52147-1710
		JA401 PIN JACK 2P	PKB1009
		JA393 MINI JHACK	PKN1005
		X401 CRYSTAL RESONATOR (16.9344MHz)	PSS1008
		CN201 CONNECTOR 6P	RKP-533
		JA301 OPTICAL OUTPUT JACK	TOTX178
		PCB BINDER	VEF1008
		X351 CERAMIC TESONATOR (4.19MHz)	VSS1014
		CN202 CONNECTOR 4P	VKN1051

COAXIAL OUTPUT BOARD ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
		IC331	MC74HCU04N
COILS AND FILTERS			
		L334	PTL1003
CAPACITORS			
		C335	CEAS470M25
		C333	CENA101M25
		C334	CFTXA103J50
		C336, C339	CFTXA104J50
		C331	CKCYF103Z50
RESISTORS			
		All Resistors	RD1/6PM□□□J
OTHERS			
		JA331 PIN JACK 1P	RKB1019

FUNCTION BOARD ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
		Q701, Q702	DTC124ES
		D701-D704	1SS254
		D713	PCX1019
		D712	PCX1023
SWITCHES AND RELAYS			
		S701-S707	PSG1006
CAPACITORS			
		C701	CFTXA104J50
RESISTORS			
		All Resistors	RD1/6PM□□□J
OTHERS			
		V701 FL INDICATOR TUBE	PEL1085
		REMOTE SENSOR	SBX1785-51

SW BOARD ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
		D751	PCX1019
SWITCHES AND RELAYS			
		S751-S754	PSG1006

SERVO TRANS BOARD ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
⚠		IC31	ICP-N10
		IC60	M51957AL
⚠		IC20	NJM78L05A
⚠		IC21	NJM79L05A
⚠		Q21	2SA1262
		Q22	2SA933S
⚠		D11-D14, D21-D24, D52	11ES2
		D54	MTZJ18B
COILS AND FILTERS			
		L13, L21 (FERRITE BEADS)	PTH1013
		L2, L22, L3 (FERRITE BEADS)	PTH1014
		L15 (FERRITE BEADS)	PTH1015
		L18, L24, L26 (FERRITE BEADS)	PTH1016
CAPACITORS			
		C62	CEAS010M50
		C61	CEASR33M50
		C11-C16	CKCYF103Z50
		C27, C28 (470/6.3)	PCH1123
		C25, C26, C31, C32 (3300/25)	PCH1125
		C52, C53 (100/50)	PCH1126
		C18, C19 (4.7/50)	PCH1127
RESISTORS			
		R24	RD1/2PM010J
		Other Resistors	RD1/6PM□□□J
OTHERS			
⚠		RAPPING TERMINAL	RKC-061

2.2 PCB CONNECTION DIAGRAM

• This diagram is viewed from the foil side.

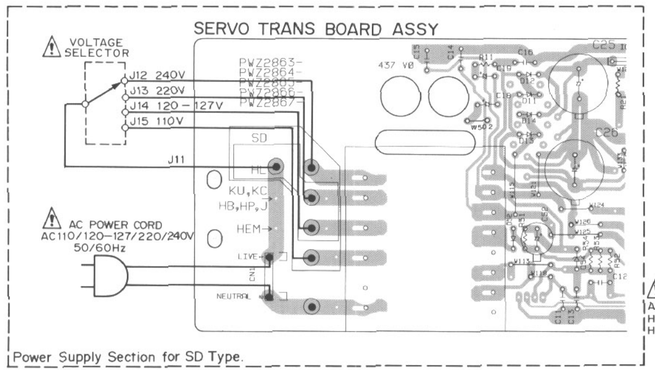
- **This diagram is viewed from the mounted parts side.**

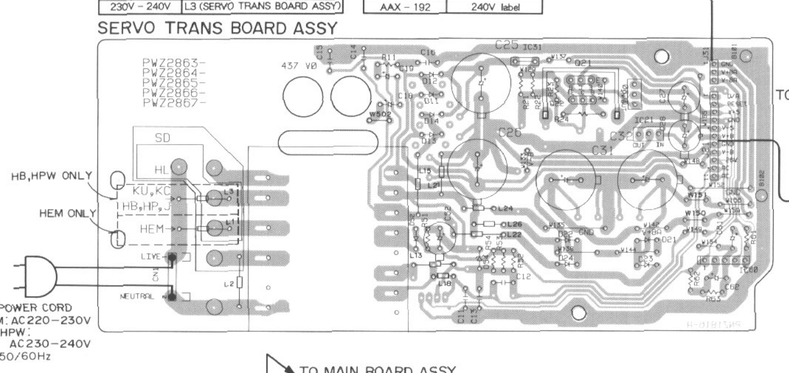
Line Voltage Selection

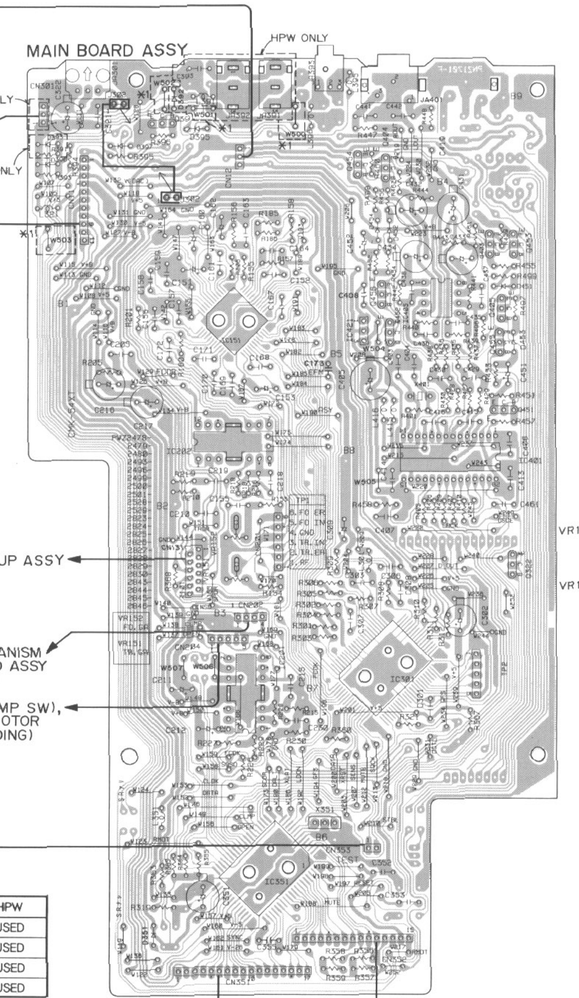
Line voltage can be changed by the following modification :
1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the position of the L1 and L3 as follows.
4. Stick the line voltage label on the rear panel.

Voltage	L1 and L3 position
220V – 230V	L1 (SERVO TRANS BOARD ASSY)
230V – 240V	L3 (SERVO TRANS BOARD ASSY)

Parts No.	Description
AAX – 193	220V label
AAX – 192	240V label

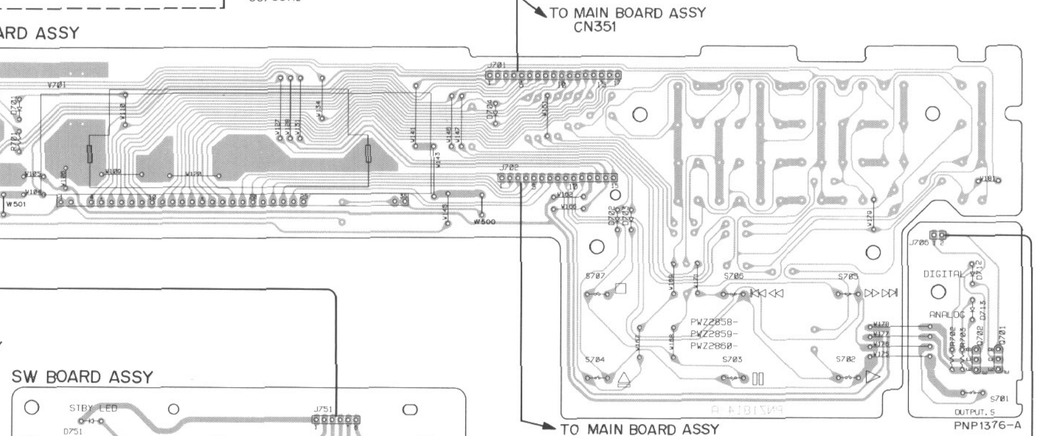


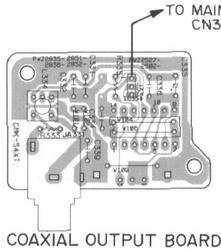


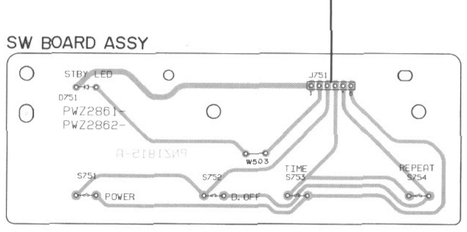


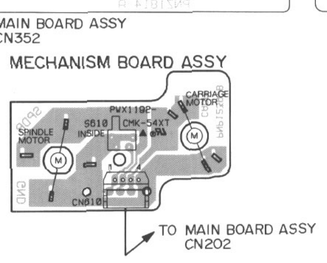
NOTE FOR PCB DIAGRAMS:
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
B C E	B C E	Transistor
B C E	B C E	Transistor with resistor
D G S	D G S	Field effect transistor
		Resistor array
		3- terminal regulator









*1

	HB, HEM, SD	HPW
D391	W503	USED
D394	W501	USED
L392	W500	USED
R392	W502	USED

NOTE FOR SCHEMATIC DIAGRAMS (Type 4A)

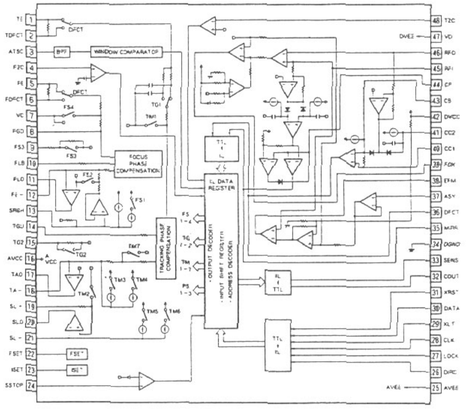
1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ▭ or ← V :
   DC voltage (V) in PLAY mode unless otherwise noted.
   ⇦ mA or ← mA :
   DC current in PLAY mode unless otherwise noted.
   Value in ( ) is DC current in STOP mode.
7. **OTHERS:**
   - ⊘ or ❶ : Adjusting point.
   - ◁| : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, *be sure to use parts of identical designation.*
8. **SCH—□ ON THE SCHEMATIC DIAGRAM:**
   - SCH—□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. **SWITCHES** (Underline indicates switch position):

FUNCTION BOARD ASSY
S701 : OUTPUT SELECTOR
S702 : PLAY ▶
S703 : PAUSE ⏸
S704 : OPEN/CLOSE ⏏
S705 : TRACK/MANUAL SEARCH ▶▶|
S706 : TRACK/MANUAL SEARCH |◀◀
S707 : STOP ■

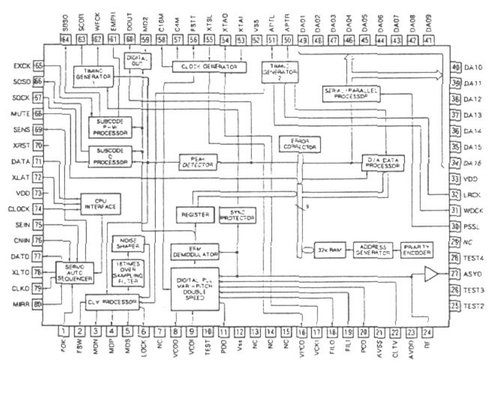
SW BOARD ASSY
S751 : TIME
S752 : REPEAT
S753 : POWER STANDBY/ON
S754 : DISPLAY OFF

● IC BLOCK DIAGRAMS

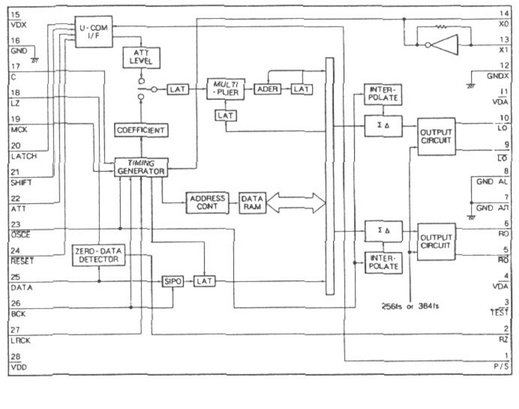
IC151 : CXA1372Q



IC301 : CXD2500BQ



IC401 : PD2029A



2.3 SCHEMATIC DIAGRAM

SERVO MECHANISM ASSY

PICKUP ASSY (PEA1179)

HOLOGRAM LASER UNIT

PRE-AMP BOARD ASSY

⚠ MAIN BOARD ASSY (PWZ2828:HB) (PWZ2829:HPW) (PWZ2825:HEM,SD)

MECHANISM BOARD ASSY(PWX1192)

LOADING MECHANISM ASSY

SW BOARD ASSY (PWZ2861)

FUNCTION BOARD ASSY (PWZ2858)

⚠ SERVO TRANS BOARD ASSY (PWZ2864:HB) (PWZ2863:HEM) (PWZ2865:SD) (PWZ2866:HPW)

COAXIAL OUTPUT BOARD ASSY (PWZ2835)

IC301 (CXD2500BQ)

Pin No.	Voltage (V)	Pin No	Voltage (V)	Pin No	Voltage (V)	Pin No.	Voltage (V)
1	5	21	0	41	2.5	61	0
2	2.1	22	2.5	42	5	62	2.5
3	5	23	5	43	2.5	63	0
4	2.6	24	2.5	44	0	64	0
5	2.2	25	0.2	45	5	65	0
6	5	26	0	46	4.4	66	3.3 to 4.6
7	0	27	2.5	47	0	67	5
8	5	28	0	48	0	68	5
9	0	29	0	49	0 to 0.3	69	2.1 to 3
10	0	30	0	50	1.2	70	5
11	2.1	31	1.3 to 2.2	51	1.2	71	0
12	0	32	2.5	52	0	72	5
13	1	33	5	53	2.5	73	5
14	0.9 to 1.3	34	2.5	54	2.5	74	5
15	0	35	2.5	55	0	75	5
16	2	36	2.5	56	2.9	76	0
17	0	37	2.5	57	2.5	77	5
18	2.5	38	2.5	58	2.5	78	5
19	2.4	39	0	59	5	79	5
20	2.4	40	5	60	2.5	80	0

IC351 (PD4539A)

Pin No.	Voltage (V)	Pin No	Voltage (V)	Pin No	Voltage (V)	Pin No.	Voltage (V)
1	5.1	17	11.3 to 11.8	33	4.9	49	0.1
2	- 22.5 to - 23.5	18	- 26.3	34	3.5 to 4.5	50	5.1
3	- 22.5 to - 23.5	19	- 4.9	35	5	51	0
4	- 22.5 to - 23.5	20	- 7.8 to - 8.1	36	0.1	52	5
5	- 22.5 to - 23.5	21	- 5.9 to - 6.5	37	5	53	5
6	- 22.5 to - 23.5	22	- 8.3 to - 11	38	5	54	5
7	- 22.5 to - 23.5	23	- 5.2 to - 5.5	39	0	55	5
8	- 22.5 to - 23.5	24	- 3 to - 6	40	0	56	2.3
9	- 22.5 to - 23.5	25	- 5.5 to - 8.5	41	0	57	2.4
10	- 22.5 to - 23.5	26	5	42	0	58	0
11	- 22.5 to - 23.5	27	- 19.4 to - 19.7	43	4.9	59	0
12	5	28	- 19.4 to - 19.7	44	4.9	60	N.C
13	5	29	- 14 to - 17	45	5	61	0
14	N.C (2.6)	30	- 11 to - 14	46	0	62	0
15	- 0.9	31	4.9	47	4.9	63	0
16	14.3 to 14.8	32	4.9	48	0	64	0

IC401 (PD2029A)

Pin No	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	8	0	15	5	22	5
2	0	9	2.6	16	0	23	5
3	5	10	2.4	17	N.C	24	5
4	5	11	5	18	0	25	2.4
5	2.4	12	0	19	2	26	2.4
6	2.6	13	2.4	20	5	27	2.4
7	0	14	2.4	21	5	28	5

IC201 (LA6520)

Pin No	Voltage (V)	Pin No.	Voltage (V)
1	0	7	0
2	0	8	0
3	0	9	0
4	0.1 to 0.8	10	N.C
5	0.1 to 0.8	11	N.C
6	0.1 to 0.8	12	8.9

IC202 (LA6520)

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0.1	7	- 0.1
2	0.1	8	- 0.1
3	0.1	9	- 0.1
4	- 0.1 to - 1	10	N.C
5	2.3	11	N.C
6	2.3	12	8.9

IC60 M51957AL

Pin No	Voltage (V)
1	5
2	1.6
3	0
4	1.3
5	5

Note
FERRITE BEADS

SIGNAL ROUTE
➡: SIGNAL ROUTE
⇨: FOCUS SERVO LOOP LINE
⇛: TRACKING SERVO LOOP LINE
⇘: LOADING MOTOR ROUTE
➡: SPINDLE MOTOR ROUTE
⇘: CARRIAGE MOTOR ROUTE

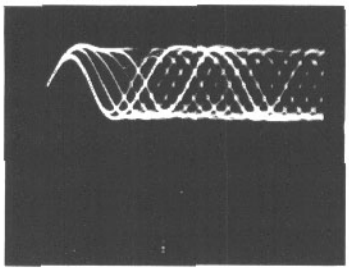
● WAVEFORMS

Note: The encircled numbers denote measuring points in the schematic diagram.

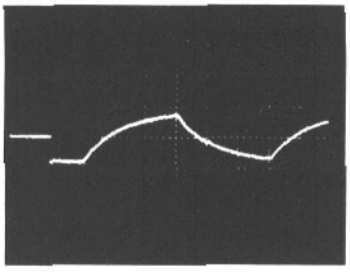
*1 50T-JUMP: After switching to the pause mode, press the manual search key.

*2 FOCUS-IN: Press the key without loading a disc.

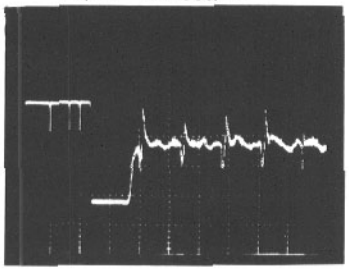
② TP1 - Pin 1:PLAY MODE (RF)
500mV/div 500nsec/div



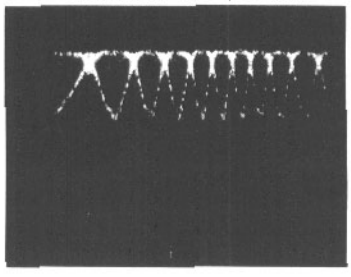
⑤ IC202-Pin 9:FOCUS-IN (* 2)MODE (FODR)
1V/div 200msec/div



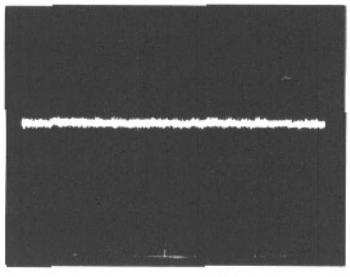
⑦ IC202-Pin 4:TRACK SEARCH MODE (SPDR)
2V/div 50msec/div



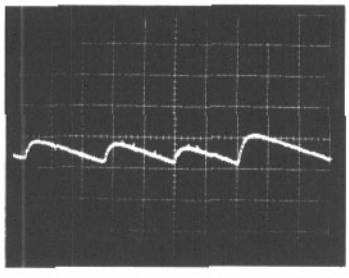
② TP1 - Pin 1:TRACK SEARCH MODE (RF)
500mV/div 200 μ sec/div



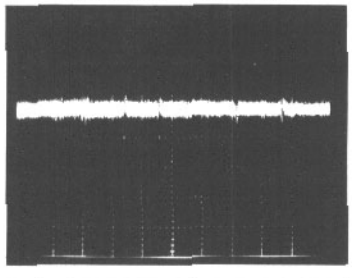
⑤ IC202-Pin 9:PLAY MODE (FODR)
1V/div 1msec/div



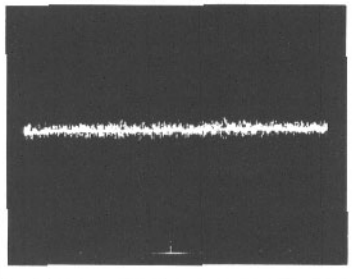
⑧ IC201–Pin 4 : PLAY MODE (CADR)
200mV/div 2sec/div



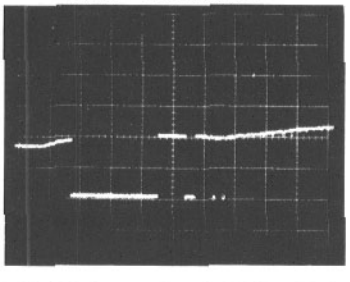
③ TP1 - Pin 6:PLAY MODE (FOER)
100mV/div 10msec/div



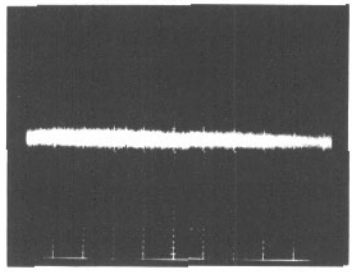
⑥ IC202 - Pin 3:PLAY MODE (TRDR)
500mV/div 1msec/div



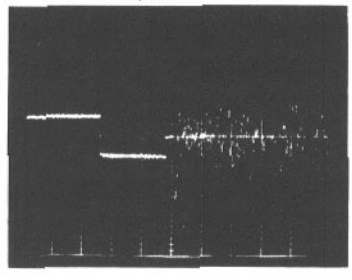
⑧ IC201–Pin 4 : TRACK SEARCH MODE (CADR)
2V/div 500msec/div



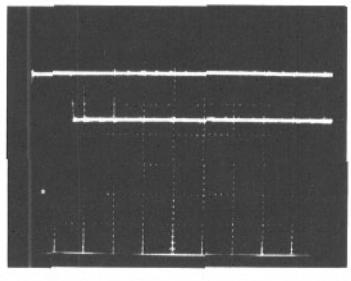
④ TP1 - Pin 2:PLAY MODE (TRER)
1V/div 10msec/div



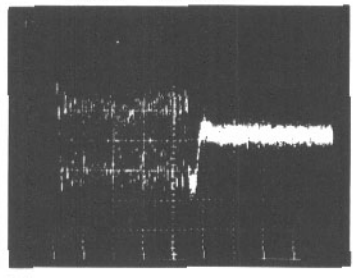
⑥ IC202 - Pin 3:50T - JUMP (*1) MODE (TRDR)
500mV/div 1msec/div



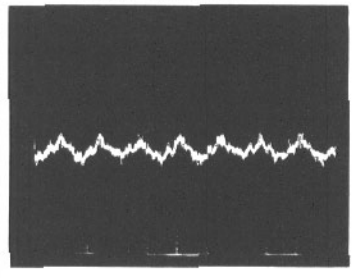
⑨ IC151-Pin 32:PLAY MODE (EFM)
2V/div 500nsec/div



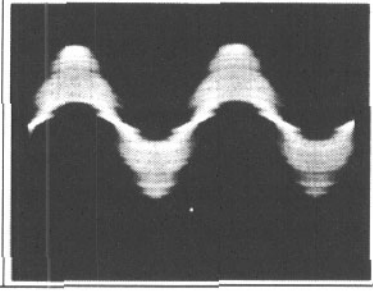
④ TP1 - Pin 2:50T - JUMP (*1) MODE (TRER)
1V/div 1msec/div



⑦ IC202-Pin 4:PLAY MODE (SPDR)
1V/div 50msec/div

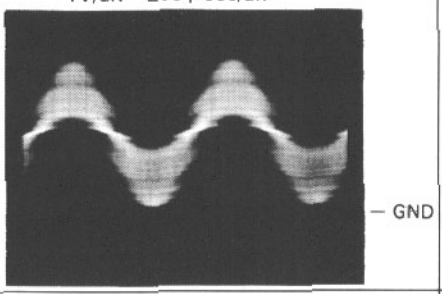


⑩ IC401 - Pin 9:PLAY MODE (1kHz) ($\overline{LO}$) (D/A DATA OUT)
1V/div 200 μ sec/div

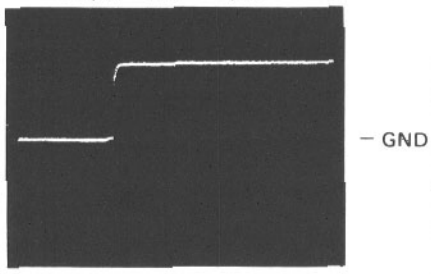


*3 POWER ON : Plug AC cord into AC wall socket.
*4 POWER OFF: Unplug AC cord from AC wall socket.

(11) IC401 - Pin 10:PLAY MODE (1kHz)
(LO) (D/A DATA OUT)
1V/div 200 μ sec/div

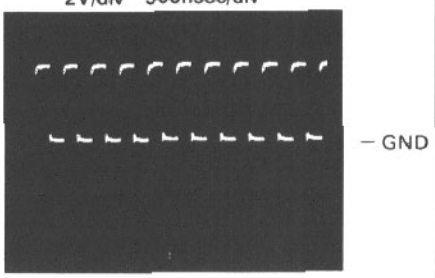


(22) IC351–Pin 1 : POWER ON (*3)
($\overline{REST}$)
2V/div 100msec/div

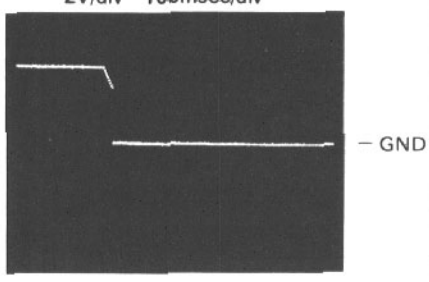


(26)

(16) IC301 - Pin 35:PLAY MODE (1kHz)
(BCLK)
2V/div 500nsec/div

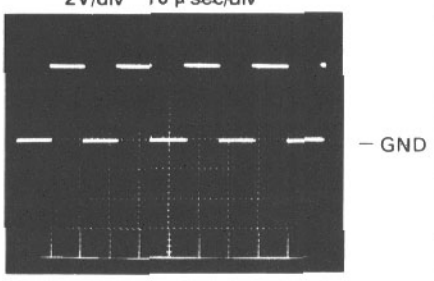


(22) IC351–Pin 1 : POWER OFF (*4)
($\overline{REST}$)
2V/div 100msec/div

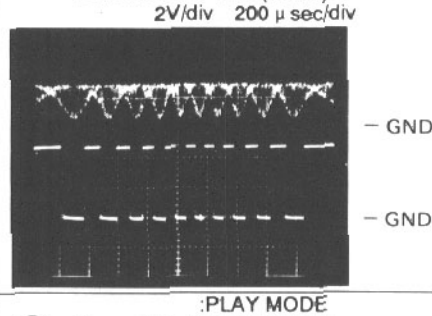


(27)

(18) IC301 - Pin 32:PLAY MODE (1kHz)
(LRCK)
2V/div 10 μ sec/div

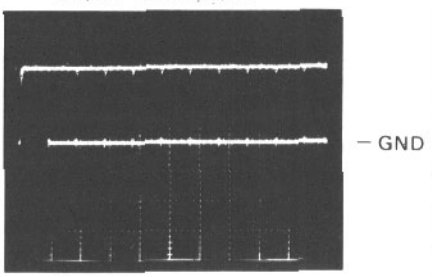


(23) :TRACK SEARCH MODE
Upper:TP1 - Pin 1 (RF) 1V/div
Lower:IC151-Pin 29(MIRR)
2V/div 200 μ sec/div

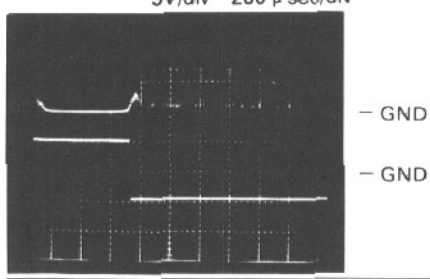


(28)

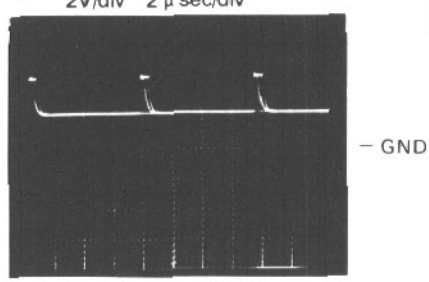
(19) IC301 - Pin 34:PLAY MODE (1kHz)
(DATA)
2V/div 500nsec/div



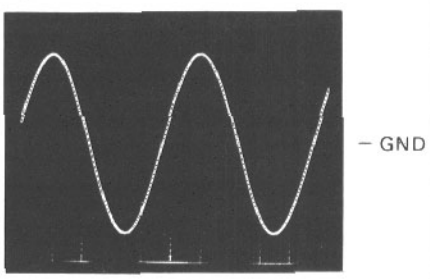
(24) :PLAY MODE
Upper:TP1-Pin 1(RF)1V/div
Lower:IC151-Pin 30(DFCT)
5V/div 200 μ sec/div



(33) IC301 - Pin 4:PLAY MODE
(MDP)
2V/div 2 μ sec/div

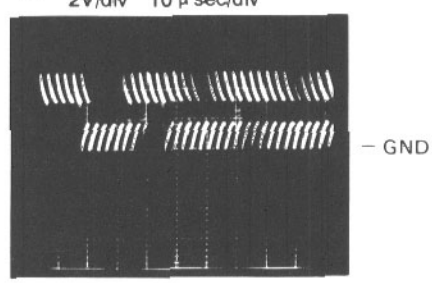


(21) Pin - OUTPUT:PLAY MODE(1kHz)
1V/div 200 μ sec/div



(25)

(53) IC301 - Pin 20:PLAY MODE
(PCO)
2V/div 10 μ sec/div



PIONEER®
The Art of Entertainment

Service Manual

ORDER NO.
RRZ1146

The chapter 1 of this Service Manual will not be reprinted. On your additional orders, we may supply only the chapter 2. For the chapter 1, please make copies and attach to the chapter 2 at your side if necessary.

COMPACT DISC PLAYER

PD-S703

CHAPTER 2

CONTENTS

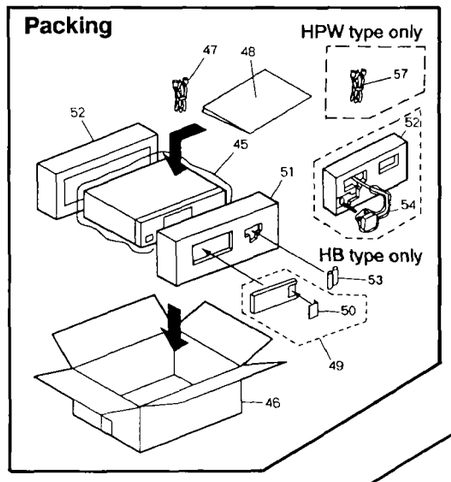
PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

T – SSK APR. 1994 Printed in Japan

2.1 EXPLODED VIEWS AND PACKING

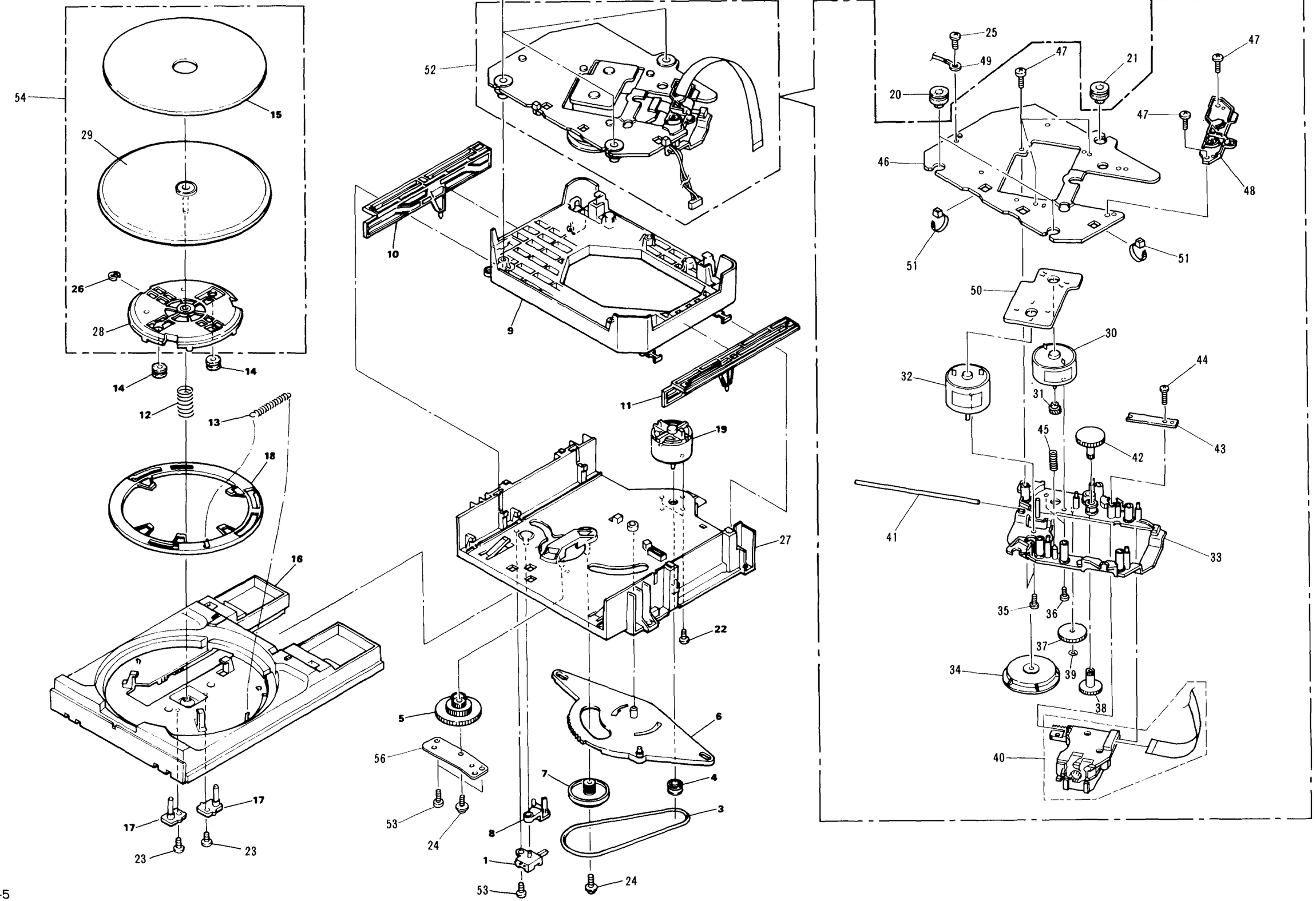
1. EXTERIOR AND PACKING

Exterior



NOTE: Screws adjacent to ▼ mark on the product are used for disassembly.

2. LOADING MECHANISM ASSY TT



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